Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules	)	WT Docket No. 97-81
Regarding Multiple Address Systems	)	

COMMENTS OF UTC

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SUMMARY

Utilities and pipelines make extensive use of multiple address systems (MAS) for supervisory control and data acquisition (SCADA) and many other critical and unique applications in the provision of electric, gas and water services. New applications of information technology, many of which will rely on MAS, are evolving to help in the more efficient and reliable provision of utility service. In addition, the utility industry is undergoing dramatic regulatory and marketplace changes that will require even more intense use of communications technologies to maintain safety, reliability and environmental standards.

Utility and pipeline need for MAS is increasing, yet channels are not available in many areas of the country. Other communications alternatives are not as reliable or as cost-efficient to deploy as MAS.

The predominant use of MAS has been for private, internal operations. Although the FCC suggests that 95% of the applications filed in 1992 were for subscriber-based services, there is no hard-evidence as to the intentions of these applicants, and the fact that other MAS spectrum has remained a predominantly private service strongly indicates that many, if not the vast majority, of applications filed for the 932/941 MHz channels were submitted by speculators intent only on selling their authorizations to entities having legitimate need for this spectrum.

UTC therefore recommends that the 928/952/956 MHz channels be retained for private, internal MAS operations, and that at least 25 channel pairs in the 932/941 MHz band be allocated for private, internal MAS operations, including 5 channels for primarily public safety and federal government use. Site-by-site licensing should be retained for private MAS systems. Mobile remote use should not be permitted, and point-to-point use should only be permitted on an ancillary basis on any channels in the 932/941 MHz band that are determined to be auctionable. Technical rules should be adopted to better protect MAS operations from the significantly higher power paging operations that have been allocated to bands adjacent to MAS.

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Pursuant to Section 1.415 of the FCC's Rules, UTC, The Telecommunications Association (UTC),[1] hereby submits its Comments on the Notice of Proposed Rule Making, FCC 97-58, released February 27, 1997, in the above-captioned matter.[2] As discussed more fully herein, UTC supports the FCC's recommendation to retain the 928/952/956 MHz multiple address system (MAS) channels for licensing in private, internal use systems, but strongly urges the FCC to allocate additional MAS spectrum for use in the telemetry systems needed by utilities, pipelines and other critical infrastructure industries.

I. Background

UTC is the national representative on communications matters for the nation's electric, gas, and water utilities and natural gas pipelines. Well over 1,200 such entities are members of UTC, ranging in size from large combination electric-gas-water utilities serving millions of customers to small rural electric cooperatives and water districts

[1] UTC was formerly known as the Utilities Telecommunications Council.

[2] By Order, DA 97-839, released April 18, 1997, the comment deadline was extended to May 1, 1997.

serving only a few thousand customers. All utilities depend on reliable and secure telecommunications facilities in carrying out their public service obligations, and many operate private communications systems, including the use of private wireless facilities. UTC's members are collectively one of the largest users of MAS frequencies, and, as detailed below, UTC's members are facing a growing need for additional MAS frequencies. UTC is therefore pleased to have the opportunity to submit comments on the FCC's proposals in this docket.

II. Utilities and Pipelines Will Increasingly Rely on Communications Technology To Maintain this Critical National Infrastructure and Provide Essential Public Services

One of UTC's major areas of activity is helping electric, gas and water utilities, and pipelines meet their communications requirements for "automated systems." Defined broadly, automated systems permit utilities and pipelines to remotely monitor, coordinate, and operate transmission and distribution components from centralized locations. Thus, automation technologies include load management, demand side management, advanced metering, and a wide variety of other utility system control functions. As demand has increased in the U.S. for the delivery of high quality and reliable utility and energy services, the need for improved monitoring and control capability has increased tremendously. As explained in Section III below, operational and regulatory changes in the utility and pipeline industries indicate a need for greater spectrum allocations for use by these critical infrastructure industries, not less.

A. Current Applications and Technologies

The utility and pipeline industries currently utilize automation technologies to perform the following functions:

Capacitor Bank Control - utilized to regulate power factor on power lines and is directly related to quality of power service.

Monitoring -- used to track the quality of water and detect contaminants in reservoirs and aquifers.

Load management - utilized both in residential and commercial services by utilities to reduce peak load requirements, thereby avoiding widespread blackouts and helping to defer the need to build additional generating capacity just to meet peak demand.

Distribution System Control - utilized on the distribution level to provide control and monitoring of field devices. Automated data control systems assist utilities in service restoration.

SCADA (Supervisory Control and Data Acquisition) - utilized to control switching stations (substations) and pumping stations required to route the utility's electricity, gas or water from the development point to the consumer.

Pipeline system control - utilized to monitor and control pipeline systems to insure the safe transmission of gas and other fuel products.

Automatic Meter Reading - replaces the delay and expense of manual meter reading, and allows monitoring of meters located in areas where access is difficult; also provides potential for time-of-day or time-of-use pricing to provide greater consumer choice and to assist in deferring the need to build additional generating capacity to meet peak loads.

Nuclear warning systems - allows for advanced emergency warning in the event an evacuation is needed.

Moreover, utilities and pipelines rely upon their existing automated infrastructure during emergencies. In routine emergencies, utility automation systems are utilized to

remotely detect outages, and act as a point of information to assist in system restoration through load control and coordination of safe operations. During abnormally severe emergencies (*e.g.*, hurricane, earthquake) utility automation systems are utilized as a resource for critical communications and control.

B. Evolving Applications and Technologies

It is anticipated that the demand for automation-type functions, and thus additional spectrum, will expand dramatically. Many utilities and pipelines intend to expand their deployment of existing telemetry and automation systems and to implement more advanced forms of these technologies during the next decade. Therefore, in many cases the major challenge that utilities will face in implementing new distribution automation technologies in the coming years is the securing of adequate communications channels.

In addressing the FCC's elimination of the Power Radio set-aside of MAS channels in the 928-952 MHz band, the Department of Energy (DOE) in a 1993 Report to Congress, indicated that the lack of more widespread utility use of these frequencies in the 1980s was attributable to the lack of affordable equipment and technical standards. DOE indicated that such utility-specific cost-effective equipment is now available.[3]

[3] Department of Energy's September 2, 1993, Report to Congress on Innovative Communications Equipment and Services for Utility Applications, p. 21. This report was presented to Congress in response to Section 401 of the Telephone Disclosure and Dispute Resolution Act, Pub. L. No. 102-556, 102 Stat. 4194. (hereinafter the "DOE Report").

Electric, gas and water utilities have joined efforts with equipment manufacturers under the Institute of Electrical and Electronic Engineers Coordinating Committee SCC31, and have developed network interface standards, also called SCC31, to assure compatibility of all utility communications equipment and systems. In addition, the utility industry, through the Electric Power Research Institute (EPRI) and Institute of Gas Technology (IGT), have developed an open system architecture known as the Utility Communications Architecture. The adoption of these two standards has facilitated the development and implementation of utility distribution automation technologies, and it would be contrary to the public interest for the FCC to reallocate existing channels, or to withhold allocation of new channels, just as these industries are deploying advanced information technologies.

In its 1993 Report to Congress on use of communications by utilities, DOE recognized that distribution automation technologies have demonstrated their value and that the number of these installations would likely increase rapidly. Since the publication of the DOE Report, utility implementation of distribution automation technologies has in fact expanded by geometric proportions and shows no signs of abating. The Automated Meter Reading Association's (AMRA) "1997 Trials and Installations Report" indicates that 201 utilities have installed or plan to install 11 million AMR units for load management, SCADA and other automated services by the end of 1997. Moreover, the 1996 Chartwell AMR report projected over 16 million AMR installations by 1999.

Significantly, the point-to-multipoint MAS channels in the 900 MHz band are the only licensed channels that the FCC has dedicated for these types of applications.[4] While the unlicensed 902-928 MHz band is widely used for AMR installations, these systems are often controlled by a licensed MAS frequency. Moreover, the FCC's allocation of the 902-928 MHz band to the Location Monitoring Service on a primary basis raises questions about the long-term viability of this band for utility distribution automation systems.

Historically, SCADA and telemetry applications have existed along the transmission systems of utilities and pipelines. It is now anticipated that utilities and pipelines will dramatically increase the installation of point-to-multipoint communications systems within their distribution networks. A recent report of the President's National Security Telecommunications Advisory Committee confirmed this finding for electric utilities:

> Newer, more intelligent data collection equipment is now being deployed in substations by electric utilities. These computerized field devices that are directly involved with the generation, transmission, and distribution systems are called intelligent electronic devices (IEDs). These devices represent the growing trend in the industry of pushing the intelligence and decision making capabilities farther and farther out into the field, closer to the data collection point.[5]

[4] While other spectrum can be utilized it is primarily dedicated to mobile voice communications and is therefore often incompatible with utility distribution automation requirements.

[5] Electric Power Information Assurance Risk Assessment, Report of the President's National Security Telecommunications Advisory Committee, March 1997.

A study by the Electric Power Research Institute identified a number of specific areas/developments where there is likely to be a significant expansion in the number of points supervised by today's SCADA applications:[6]

> **Distributed Utility Operations and Planning** -- an emerging application area that addresses the possibility for utilities to integrate a wide variety of generation resources into their overall generation planning and operations process. Distributed Utility operations require communications links to each of the sources of distributed generation in the power system to support monitoring and control of their operation.
>
> **Dynamic Loading** -- the ability to dynamically balance loads among adjacent distribution substations. This applications uses analog and status value from the SCADA system as an input to a network analysis application to determine the optimal loading of transformers among substations in the distribution network. Once the optimal configuration is determined, the application compares voltage and current magnitude, phase angle, and frequency differences on either side of open switches to ensure that they are synchronized prior to issuing commands for the required switching to take place.
>
> **Outage Management** -- In the future, monitoring of the distribution system at points between the substation and the customer could provide greater precision in detection of faults and service outages. Installation of sensors at fuses, switching points and/or near major customer feeds, would provide the basis for a SCADA system to alert the dispatch personnel of appropriate area to search for the cause of an outage.

Similarly, the Department of Commerce's National Institute of Standards and Technology (NIST) identified additional areas where society would benefit from more sophisticated utility control systems, such as dispatching of different power plant production sources according to their pollutant production on different days, or monitoring of thermal pollution and air pollutant levels at generating facilities.[7]

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[6] Business Opportunities and Risks for Electric Utilities in the National Information Infrastructure, Electric Power Research Institute, 1994, pp. 6-14.

[7] Report of the Information Infrastructure Task Force Committee on Applications and Technology, NIST, 1994, pp. 25-43.

The Department of Energy recognized public benefit of extending utility automation systems into the distribution level:

> Public health and safety could be enhanced by the widespread implementation of real-time communications systems at the distribution level. Outages could be reported from each house and at various points on the utility distribution network so that the extent of the outage could be precisely determined. This would help expedite repairs, enabling electric utilities to restore power more quickly. It would also help the electric utility locate power lines that are down, which, if still energized, could pose a hazard to utility personnel or the general public. On the gas system, monitors placed at each house and at various locations on the gas distribution network could help detect and locate gas leaks, which could then be repaired more quickly and prevent possible safety hazards. [8]

C. Regulatory Changes

In addition to the development of cost-effective enabling technologies and the implementation of new applications, the single greatest factor driving the increased need for utility and pipeline MAS channels is the on-going Federal and state deregulation of these industries.

In 1992, the Federal Energy Regulatory Commission (FERC) transformed the natural gas pipeline industry into an open access transportation market. The FERC rules, known as Order 636, compelled pipelines to unbundle all merchant and transport functions and essentially act as transportation companies.[9] The rules require each

[8] DOE Report, p. 16.

[9] FERC Order 636, 57 Fed. Reg. 13267 (Apr. 16, 1992)

pipeline to utilize capacity-releasing mechanisms and to permit customer access to storage capacities along the pipelines to store off-peak purchases and provide peak delivery. These operational requirements have necessitated an increase in the deployment of SCADA systems by pipelines and local gas distribution companies.[10]

The electric utility industry is in the midst of dramatic changes that are being brought about by a combination of marketplace forces, Federal and state legislation and regulatory initiatives. The Energy Policy Act of 1992 opened up power generation to competition.[11] In 1996, the Federal Energy Regulatory Commission (FERC) mandated that utilities subject to its jurisdiction provide non-discriminatory access to their transmission facilities to all wholesale buyers and sellers of electric energy.[12] In order to ensure a robust and competitive market, FERC is requiring that such utilities post on "open access same-time information systems" (OASIS) key data about their available transmission line capacities and transmission pricing.[13] This data would be available on an almost real-time basis to all potential suppliers and purchasers of power, including the utility's own marketing personnel. It is important to remember that power follows the path of least resistance, and its flow is not constrained or switched as easily as communications circuits. Therefore, in order to comply with FERC's requirements while continuing to maintain the security and reliability of the nation's electric grid, utilities

[10] Ironically, many pipelines applied for channels in the 932/941 MHz bands in hopes of meeting these new requirements.

[11] Pub. L. No. 102-486, 106 Stat. 2776 (1992).

[12] FERC Order 888, 61 Fed. Reg. 21540 (May 10, 1996).

[13] FERC Order 889, 61 Fed. Reg. 21737 (May 10, 1996).

will require additional SCADA channels to coordinate, balance and schedule transmission services among multiple remote locations.

The industry changes mandated by FERC so far only affect the wholesale market for power. Utilities' communications requirements are expected to further expand with the adoption of retail electric competition. Congress and over 30 states are currently wrestling with the best manner in which to implement retail competition. Therefore, from the utilities' standpoint, this is the worst possible time for the FCC to propose a reduction in the radio channels that will be needed to maintain a safe and smooth transition to a competitive environment.

III. Utilities and Pipelines Make Extensive Use of MAS Channels To Meet These Critical Operating Requirements

As described above, utilities and pipelines use MAS channels for the operation of supervisory control and data acquisition systems (SCADA) to remotely monitor, coordinate and control complex transmission and distribution systems from centralized locations.[14] As a result, currently available MAS channels in the 928/952/956 MHz bands have become highly congested.[15] Utilities and pipelines seeking MAS frequencies

[14] Revised Filing Window for Point-to-Multipoint Channels in the 900 MHz Government/Non-Government Fixed Service, 6 FCC Rcd 7242 (1991).

[15] Amendment of Parts 1, 21, 22, 74, and 94 of the Commission's Rules, 4 FCC Rcd at 2012 (MAS frequencies are "becoming saturated"), and Amendment of Rules to Eliminate Grandfathering Provisions Applicable to Licensees on MAS Frequencies, 5 FCC Rcd 3079 (1990) (demand for MAS spectrum is rising dramatically).

for new or expanded systems have found it increasingly difficult to match their communications capabilities with their business needs.

A SCADA system typically consists of a "host" or "master" computer and "remote terminal units" located in the field which are used to gather data and/or control operations at key utility installations, such as electric substations, gas compressor stations, or water storage facilities. Most of these installations are unmanned, and many are located in remote areas where public communications facilities are unavailable or could be obtained only at great expense to the utility and its ratepayers. In addition, by maintaining their own communications systems and minimizing their dependence on public communications systems (many of which are dependent upon commercial power), utilities and pipelines are better able to restore and maintain any of their services that are disrupted by natural disasters.[16]

UTC was an early advocate before the FCC for an allocation of radio spectrum that would accommodate utilities' growing need for SCADA and telemetry purposes, culminating in the allocation of channels for "multiple address systems" (MAS) in the 928 and 952 MHz bands, a portion of which channels were specifically, but only temporarily, reserved by the FCC for licensing to electric, gas and water utilities. Demand for these channels has been strong, and they are no longer available in many areas of the country.

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[16] In a 1990 Report of the Energy Task Force of the National Security Telecommunications Advisory Committee, it was concluded that because electric utilities rely primarily on private, internal communications systems, they are less affected by widespread outages of the commercial telecommunications networks; conversely, the public switched telephone network is heavily dependent on the availability of commercial power. If both industries were totally interdependent, problems in restoring essential public services following a storm or disaster would only be further exacerbated

When the FCC proposed to allocate additional channels in the 900 MHz range for point-to-point use, UTC urged the FCC to allocate at least a portion of this spectrum for additional MAS channels. In 1989, the FCC allocated 40 pairs of channels, each 12.5 kHz in bandwidth, at 932.0-932.5 MHz and 941.0-941.5 MHz for point-to-multipoint MAS use.

In its 1993 Report to Congress on communications technologies for distribution automation, the Department of Energy declined the opportunity to request an authorization of frequencies from the Department of Commerce for distribution automation technologies because it found that utilities already had available frequencies to conduct such operations. This finding was based, in part on DOE's assumption that utilities would continue to have access to the 932/941 MHz MAS channels, which the FCC had specifically allocated for such uses only a few years earlier.[17]

UTC's members report that they filed for the 932/941 MHz MAS channels in good faith and with the expectation of timely action by the FCC on their applications. One of UTC's members has reported that because of the FCC's inaction on its applications, it has been forced to rely on commercial telecommunications services, such as cellular telephone, for critical SCADA, telemetry and control systems. It reports that this arrangement is unsatisfactory, particularly during or following major storms when telephone service is interrupted and/or use of the cellular system becomes overloaded.

[17] DOE Report, p. 37. Even the FCC denied a request for additional SCADA and telemetry allocations in the 900 MHz band, citing the allocation of the 932/941 MHz channels. 4 FCC Rcd 4979.

Another UTC member reports that the FCC's inaction on its 932/941 MHz MAS applications has forced it to redesign its $20 million SCADA system to "re-use" the limited number of 928/952 MHz MAS channels it has been assigned. This utility now re-uses the same channels at geographic spacings that are significantly less than normal. This leads to increased data error rates, which in turn forces the utility to send field crews to reconfigure distribution circuits following a localized power outage rather than remotely reconfiguring the system. As a result, what should be 5 to 10 minute power outages become 1 to 2 hour outages. This same utility has deployed leased telephone circuits to some electric substations, and it cites the following problems associated with this alternative:

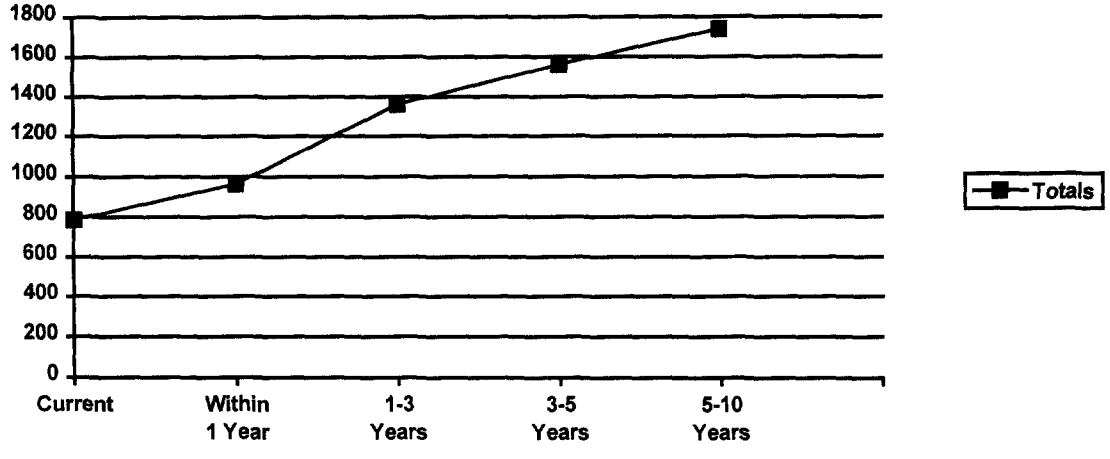
- High construction costs, in the range of $10,000-$50,000 per substation, due to the need to install special equipment to protect the public telephone network from "ground potential rise" that could induce high voltages onto telephone circuits coming into the substation;
- Long lead times, in the range of 4 to 18 months, for the local telephone company to install communications circuits, as well as less flexibility for the utility to promptly reconfigure the SCADA network in response to changing requirements;
- Lack of true independence between the electric system and the public telephone network: During a regional blackout, the power company needs its SCADA communications circuits to recover quickly. Leased telephone circuits are often dependent on the power system the utility is trying to restore. By contrast, the MAS systems operated by the utility are designed to be backed-up by batteries for up to 4 to 12 hours.
- Above-ground telephone lines are vulnerable to outages during ice storms, whereas radio-based SCADA systems are significantly more robust in harsh weather conditions.

UTC conducted a survey of its membership to assess the current and projected need for MAS among electric, gas and water utilities and natural gas pipelines. Sixty-

seven companies that either have or plan to install MAS systems responded to UTC's survey. These companies are currently licensed for 787 MAS systems. Over the next ten years, these 67 companies alone plan to install the following number of additional MAS systems:

- Within one year 179
- 1-3 years 395
- 3-5 years 200
- 5-10 years 177

TOTAL: 951



Thus, among just those companies responding to UTC's survey, utility and pipeline use of MAS is expected to double over the next five years, and increase by an additional 20% over the succeeding 5 years.

The survey respondents have, on average about 12 remotes per . Not included in this average is one company that reads about 100,000 meters with each of its MAS

systems. Thus, utilities are making very efficient use of these 12.5 kHz channel pairs to control multiple locations in a relatively small geographic area.

About one-fourth of these companies (18 out of 67) have been forced to locate MAS master sites at co-channel separations less than 90 miles due to their inability to coordinate clear channels. A total of 121 MAS master

stations owned by these companies are short-spaced due to lack of available channels. These companies report that they have opted to short-space rather than use alternative facilities, such as leased lines, due to the control and greater reliability of MAS over leased lines, but that the short-spacing is difficult to implement, is susceptible to interference, and results in degraded performance over what could be achieved if more MAS channels were available.

Twenty companies report that they have been required to forego use of MAS at 117 locations where they could not coordinate channels, even on a short-spaced basis. These companies indicate that they have been forced to use alternatives that are less reliable, more expensive, and/or more complex. One company noted, for example, that a single leased line to serve its remote sites can involve multiple telephone carriers, further diminishing the utility's control over the maintenance and restoration of these critical circuits. One multi-state electric utility reports that it has designed its polling architecture for minimal delays so that if breakers are operated, this information is relayed within milliseconds. The MAS system allows the utility to monitor system-wide operations, and can restore service within minutes. Such automatic detection and response capability is

particularly important for "critical care customers" for which the utility must restore service on a priority basis as a matter of public health and safety.[18]

In summary, utilities and pipelines depend heavily on MAS channels to carry out their public service obligations and the need for MAS channels is expected to increase

IV. The 928/952/956 MHz MAS Channels Should Be Retained for Private, Internal Operations Under the Current Rules

UTC supports the FCC's tentative conclusion that the MAS channels in the 928/952/956 MHz bands currently allocated for use under Part 101 should be retained for licensing in private (non-subscriber based) radio systems. To the best of UTC's knowledge, there is no significant or even appreciable use of MAS spectrum to provide subscriber-based services.[19] As noted above, the existing bands that are available for SCADA and telemetry are, in fact, heavily used for this purpose and are inadequate in many areas of the country to meet current and projected needs.

While UTC supports the proposal to restrict these channels from future licensing in subscriber-based systems, UTC disagrees with the FCC's assumption that imposing

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[18] In addition to the individual priority restoration programs of individual utilities, the Department of Energy recently adopted guidelines for an Electric Service Priority system, modeled after the FCC's Telecommunications Service Priority system, for the purpose of systematically identifying customers and other critical facilities related to national defense, public safety and health for which utilities should restore service on a priority basis. The FCC recently acknowledged the public safety nature of utilities and pipelines in its Second Report and Order in the "refarming" docket, PR Docket No. 92-235.

[19] A number of utilities have partnered with equipment manufacturers and other service providers to deployed advanced meter reading systems. Such private carrier arrangements are not "subscriber-based" communications services, as these systems are designed and deployed primarily to meet the utility's specialized metering requirements.

such a condition will satisfy the spectrum requirements of private microwave licensees. Attached as Appendix A is a chart depicting the results of a recent analysis of MAS channels available to private microwave licensees in the 928/952 MHz bands in ten markets across the country.[20] No attempt was made to select "worst-case" situations. As can be seen, of the 10 markets reviewed by UTC, no channels are available in 5 of the markets, and four or fewer channels are available in 3 other markets.

Heavy usage of MAS channels has also been noted by the National Telecommunications and Information Administration (NTIA). In a 1993 study of spectrum requirements for the fixed services, NTIA's Institute for Telecommunications Sciences (ITS) noted that "[t]he MAS service [in the 928-929 and 952-953 MHz bands] is a relatively new service, with innovative uses being developed each year."[21] Even at that time, NTIA noted significant density of usage in many areas of the country, with a very high growth rate:

> "The present 27 percent annual growth rate indicates a high level of interest in these services. We have assumed that part of the growth rate is an initial surge which will taper off after the first few years and continue at a 20 percent growth rate, until crowding in this band encourages the movement of new systems to other less-crowded bands. A large number of additional MAS assignments should soon be available in the 932/941 MHz band, which may take the pressure off this band. This is a relatively new service, and the amount of market for this service is not fully known at this time."[22]

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[20] The markets, and geographic centers for each market, were selected from the list of urban areas at Section 90.741 of the FCC's Rules. Starting with market #5 (Detroit), UTC selected every tenth market in this list in order to provide a pseudo-random cross-section of market sizes and locations.

[21] A Preliminary Look at Spectrum Requirements for the Fixed Services, ITS Staff Study, National Telecommunications and Information Administration, U.S. Department of Commerce, May 1993, pp. 24-25.

[22] Id., p. 25.

It is important to note that these growth figures and projections were based on the then- and still-predominant use of these channels: private, internal operations.[23]

Thus, based on the strong current and projected demand, the FCC should preserve the 928/952/956 MHz MAS channels for private, internal use only.

V. The FCC Should Allocate Additional MAS Channels for Exclusive Use in Private, Internal Systems

In a results-driven exercise of logic, the FCC has somehow determined that MAS is now, or will likely become, a primarily "commercial" service and that the FCC may therefore lawfully exercise its authority, under Section 309(j) of the Communications Act, to use competitive bidding in awarding MAS licenses in the 932/941 MHz band. For the following reasons, the FCC's reasoning is flawed and will not withstand judicial scrutiny. In any event, this result would be contrary to the public interest.

The FCC first allocated the 932/941 MHz channels for government and non-government use in 1989, and opened a series of filing windows in 1992. Subsequent to the receipt of these applications, Congress granted authority to the FCC to utilize competitive bidding to choose among mutually-exclusive applications for services that are principally used for subscriber-based services. As a result of this statutory change, the FCC considered whether it should auction MAS licenses in the 932/941 MHz bands

[23] In analyzing demand for MAS, NTIA was well-aware that some 50,000 applications had been filed for 932/941 MHz MAS channels, but, as discussed more fully below, it also recognized that "many of the non-Government applications may be 'speculative.'"

rather than assign them by random selection. In April 1994, the FCC concluded that, "[s]ince we have found that the principal use of MAS to be for private service, Section 309(j) does not authorize us to use competitive bidding to award licenses for mutually exclusive pre-July 26, 1993 MAS applications pending before the Commission. We will therefore lottery these applications."[24]

In the NPRM in the present docket, however, the FCC indicates, at paragraph 7, that it subsequently "did a preliminary examination of the pending applications and found that the vast majority (over 95 percent) were filed by applicants seemingly proposing to use their licenses principally to provide subscriber-based services." It later explains, at paragraph 11, that "there are over 50,000 applications for the 932/941 MHz bands, the overwhelming majority of which were filed by applicants seemingly proposing to use their licenses principally to provide subscriber-based service." Similarly, at paragraph 49 of the NPRM, the FCC states as follows:

> "Based on our review of the over 50,000 applications filed for MAS licenses in the 932/941 MHz bands, it now appears that the proposed use of some of the MAS spectrum has changed since we made our initial determination in the *Competitive Bidding Second Report and Order*. Of those applications filed for channels in the 932/941 MHz bands, the vast majority (over 95 percent) were filed by entities planning to provide a subscriber-based service."

First, UTC questions the weight placed by the FCC on its "preliminary analysis" of the pending 932/941 MHz MAS applications. The FCC has not made this analysis part

[24] Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, 9 FCC Rcd 2348, 2352 & n.25 (1994).

of the record, nor have the applications been made publicly available, so UTC is unable to provide any meaningful comment on the FCC's "preliminary analysis."[25] UTC does note, however, that it is questionable whether any analysis of such applications would indicate one way or the other whether the proposed use of any particular MAS application is "commercial" or "internal." There are no questions on the application form used by the FCC in 1992 that would require an applicant to disclose whether it was proposing to offer a "subscriber-based" service, so UTC questions how the FCC came to the tentative conclusion that any of these applicants, let alone 95% of them, were proposing to offer primarily subscriber-based services.[26]

The FCC has explained that its tentative conclusion was based on its staff's expertise in reviewing the applications, but that the paper applications were accidentally destroyed in June 1996. The only remaining evidence by which commenting parties can challenge this assertion is the application data in the FCC's licensing database. However, according to the FCC's official copy contractor, International Transcription Service, Inc., the data is not readily accessible to the public or agency personnel:

> "MAS appls (sic) are on the ILS system & we cannot do a printout from that system. We can do a handwritten list but we can only search by file #

[25] On April 8, 1997, UTC filed a "Motion to Supplement the Record," asking the FCC to make this preliminary analysis available to the public for comment in this docket. In its April 18, 1997, Order denying the motion, the Wireless Telecommunications Bureau stated that "[t]he Commission's assessment of the 932/941 MHz MAS applications was made using its staff's expertise to review the applications both in paper form and as input into its database." UTC acknowledges that the FCC characterized this as only a "preliminary analysis" of the applications filed in 1992. However, now that the FCC has conceded that the paper applications were destroyed in 1996, it seems unlikely that the FCC will be able to make any "final analysis" of these applications.

[26] Item 10 on FCC Form 402 required applicants to state whether "the use of this station will be shared by another Party," however shared use of a Part 94 microwave facility does not necessarily indicate whether the licensee will share the facility on a for-profit or not-for-profit basis, nor does it answer the question of whether the facility will be used to offer a subscriber-based service.

> or licensee name. We cannot down-load from the system either. FCC here in Gettysburg cannot even provide the information for the people in Washington."[27]

Because of these constraints, UTC asked ITS to provide a sample of the data that would be available to someone using a terminal at the FCC's Gettysburg facility. According to the handwritten information provided to UTC by ITS, the only data fields available are the following:

- Applicant Name
- Mailing Address
- File Number
- Receipt Date
- Transmitter Location:
  - City/State
  - Latitude
  - Longitude
- Frequency

Based on this limited information, there is simply no reasonable means by which the FCC or any commenting party could draw a conclusion as to the principal use intended to be made by these applicants.[28]

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[27] Fax message dated April 24, 1997, from ITS to UTC.

[28] The FCC previously concluded, in Docket No. 93-253, that private operational fixed MAS is principally used for private service. Significantly, no comments were submitted in Docket 93-253 to indicate that MAS was then or was likely to become a subscriber-based service, even though, according to the FCC's new estimate, the agency was holding about 45,000 applications from entities wishing to offer subscriber-based services.